

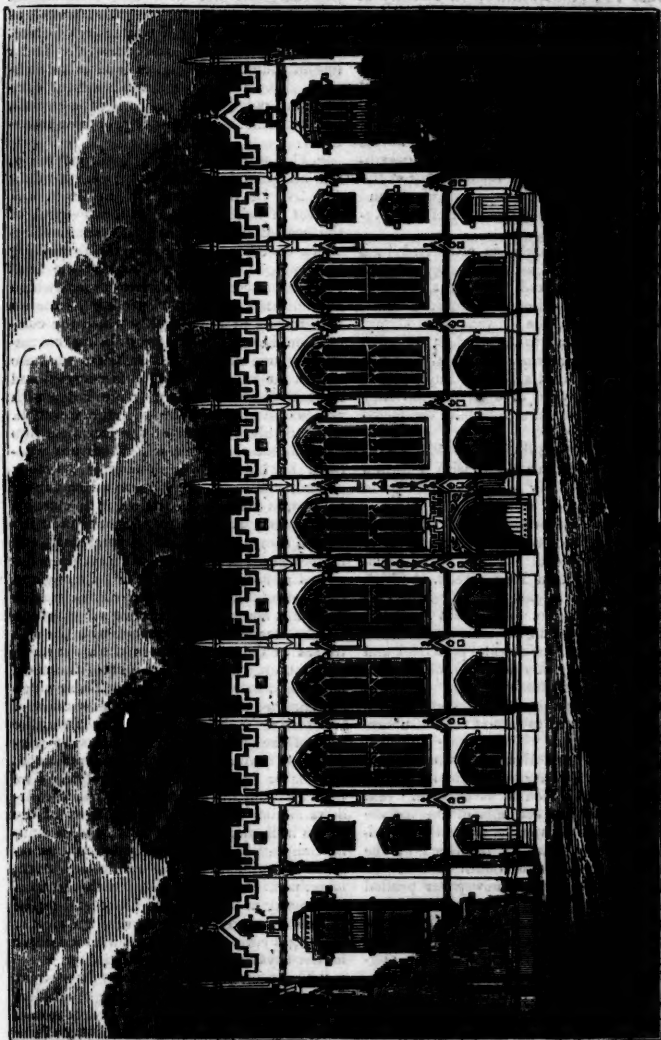
The Mirror

OF
LITERATURE, AMUSEMENT, AND INSTRUCTION.

No. 790.]

SATURDAY, AUGUST 6, 1836.

[Price 2d.]



THE BIRMINGHAM FREE GRAMMAR SCHOOL.

VOL. XXVIII.

G

THE BIRMINGHAM FREE GRAMMAR SCHOOL.

THIS important establishment was founded in the fifth year of the reign of King Edward VI., (1552,) when, on January 2, letters patent were granted for transferring the possession of a religious establishment entitled, "The Guild of the Holy Cross," of the clear annual value of 21*l.*, to twenty inhabitants of Birmingham, who were created a body corporate and elective of themselves in perpetuity. The governors thus appointed possess a common seal, and with the advice of the bishop of the diocese, have the government of the school, the appointment of the masters, whose stipends they regulate, and the preservation and disposition of the revenues.

The Grammar School is conducted by a head-master and a second master, with an assistant to each, and likewise a writing-master. The two first are required to be Masters of Arts of the Universities of Oxford or Cambridge, and in holy orders. Youths are ineligible for admission to the School unless they can read and write English, and are above eight years of age; nor are they allowed to continue after they have completed their nineteenth year.

There are ten exhibitions of 50*l.* a year each, to be held four years, with a certain residence, founded for boys who shall go to the Universities of Cambridge or Oxford. The candidates are examined, and their names arranged according to their respective excellence in classical learning. An annual visitation is held in Easter week, at which three examiners attend, and a general examination takes place, to ascertain the proficiency of the boys in the classics, and their knowledge of the fundamental principles and doctrines of the Christian religion. There are, under the consideration of the governors, some important changes in the system of instruction, calculated to extend the usefulness of the school.

A judicious regulation has been enacted, relative to publishing the accounts of this Institution; by which it is decreed, "that an abstract of the accounts of the income and expenditure of the revenues of the school-estates shall be hereafter published by the governors once in the month of June in every year, in some one newspaper printed within the said town of Birmingham." The gross annual revenue of the Institution, at present, amounts to about 4,000*l.* per annum; an income which is continually augmented by the termination of existing leases.

The School is now in course of erection, from the designs of Mr. C. Barry, "who has recently enhanced the fame his distinguished talents as an architect had previously acquired, by his much admired designs for the

New Houses of Parliament." The following description of the School is abridged from the *Companion to the Almanac for 1836*.

"The design embodies an adaptation of the collegiate, and civil, and ecclesiastical pointed architecture of the third period of what is commonly called Gothic architecture, or more particularly of the time of the Tudor line of English sovereigns; and is a distinguished proof that novel and beautiful combinations may be made of classical materials, without either servile copying, or tame imitation.

"The structure resolves itself, externally, into a regular quadrangular figure, extending 174 feet in front, 125 feet in flank, and 60 feet in height. Internally, two courts, of the same figure, are formed, around and between which the several parts of the building are arranged. The main body of the front elevation is composed of two stories, which are indicated by series of windows, enriched with tracery of the period to which the composition belongs—the lower being comparatively low, with very flat arches of what are termed the four-centred, or obtuse-angled and contrasted form; the upper are lofty, with arches of similar form, but of higher elevation. These divide that part of the elevation into seven minor compartments, which are separated by buttresses, diminishing as they ascend, and terminating above an embattled parapet, in pinnacles, enriched with crockets and finials. The principal entrance is in the central compartment of the ground-story, and is formed by a characteristic porch, so designed as not to break up the harmony and continuity of the composition. The elevation generally, however, includes two wings, which stand so far forward as to range with the buttresses of the main body in the lower story, and running up to the height of the main body, terminate in small gables. These wings are enriched each by a lofty oriel window of two stories in height, corbelling from the level of the principal floor. The other windows are plain, rectangular, and mullioned, with label heads in collegiate style. The flanks exhibit three tiers, or stories, of windows similar to the ordinary windows of the wings in front. The rear front is of a similar composition to the principal front, as regards the wings. In the centre are seven, large, pointed windows, filled with mullions and tracery in the principal floor; and in the lower story there is a series of open arches, forming a covered playground, with a cloister for the boys during inclement weather.

"The principal entrance from New-street opens upon a vestibule, on the right and left of which are two subordinate school-rooms, occupying the ground or lower story of the main body of the front, from the windows of which they receive their light. Onward the

vestibule leads into a gallery, or corridor, separating the two internal, quadrangular courts, and out into the vaulted and groined ground-floor of the main body of the rear front, which communicates, by its open arcade, with the play-ground. Turning to the right, after passing through the entrance vestibule, there is a handsome, stone staircase leading up to a corridor corresponding with that below, but of much greater height, according with the greater general height of the story, and connecting the two principal rooms in the structure, which relatively occupy the main bodies of its principal and rear fronts. These are the library and the grammar school-room. The former is over the entrance vestibule and subordinate schools in front, and occupies the grand series of windows of the elevation. This room is 102 feet long, 25 feet wide, and 31 feet in height. The latter—the grammar school, occupies the corresponding part within the rear front, over the vaulted play-ground below; over one end there will be a gallery for the accommodation of visitors at public examinations; above which gallery the length of this room is 120 feet, its width 30 feet, and its height 45 feet. The roof will be carved and enriched with tracery in the manner of the roofs of Eltham, Crosby, and other ancient halls of the same period. In the wings of the fronts, and the flanking buildings from front to rear, are the residences for the head and second master, which include apartments for the accommodation of a limited number of private pupils. The building is entirely faced with a durable grit stone, of a fine colour, from Darley Dale, in Derbyshire. The interior of the vestibule, corridors, and staircases, all of which are highly decorative, and have groined ceilings, are entirely cased with stone.*

The accompanying Engraving, representing the north or street elevation,† and particulars of the Institution, have been derived from the *Analyst*, a quarterly literary and scientific journal, printed and published at Birmingham, and an honour to the provincial press.‡

POPE AND ADDISON, AND THEIR CONTEMPORARIES.

THE adage, there is good in everything, is well exemplified in books. On one of the late wet days, we took up Thomas Tyers's pamphlets—*A Rhapsody on Pope*, and *An Historical Essay on Mr. Addison*, neither of which has been published. Tyers appears to have

been as ingenious a man as his father, who planned Vauxhall Gardens. His little books are full of lively anecdote, apt quotation, and happy illustration: so we fell to, and delved out for the gratification of our readers some fifty or sixty specimens; though, in some cases, we have only caught the sentiment, and given it our own adaptation. So here are our columns of miscellanies.

Pope on Royalty.—Frederick, Prince of Wales, once honoured Pope with a visit at Twickenham, who, on his expressing the most dutiful professions of attachment, gave his Royal Highness an opportunity of observing very shrewdly, that Pope's love for princes was inconsistent with his dislike of kings, since princes may in time be kings. "Sir," replied Pope, "I consider royalty under that noble and authorized type of a lion. Whilst he is young, and before his nails are grown, he may be approached and caressed with safety and pleasure."

Poetical Prophecy.—Bishop Berkley was not only a philosopher and a traveller, but a poet and a prophet. He wrote one poem, in six stanzas, at Rhode Island, in America, about the year 1726, where he arrived, having missed Bermudas, in the Atlantic Ocean, whither he intended his romantic voyage. The last stanza is very prophetic, seeing that it was written 110 years since:—

Westward the course of empire takes its way;

The four first acts already past,

A fifth shall close the drama of the day:

Time's noblest offspring is the last.

In Pope's epitaph on Craggs are these two lines, so honourable to a secretary of state and the particular statesman, that it is a pure pleasure to read them:

Who broke no promise, serv'd no private end,
Who gain'd no title, and who lost no friend.

Character.—It is difficult to be a good man and a great public character. Lord Stanhope confessed that it was "impossible for a minister of state to be an honest man." Surely he gave himself a bad character; or, perhaps, he was not in earnest. He lived with the reputation of a disinterested and uncorrupt minister; and when he died, his sovereign shed tears at his loss.

Genius.—The sweepings of the study of a great genius ought to be thrown into the grave with him. Yet, how often are they raked together, and spun into a volume, so that the last work is the worst, and leaves upon the reader an unfavourable impression.

Despotism.—To live by one man's will becomes all men's misery.—*Hooker.*

Toleration.—Two lines by Pope, almost copied from Cowley on Crashaw, charitably pronounce mercy to men of every religion, provided it is not a religion without morality:

For modes of faith let graceless zealots fight;
His can't be wrong, whose life is in the right.

* In an Engraving of this front inserted in a Birmingham newspaper, a few months since, a lofty tower rises from over the central doorway.

† Not the least commendatory feature of the *Analyst* is its analyses of the Proceedings of Provincial Societies, which well bespeak the active intelligence of Warwickshire and the adjoining counties.

Books.—The few original books in our day remind one of the Frenchman in the *Advertiser*, who was about to compile a treatise "concerning things that had been said but once;" which, he remarked, would be contained in a very small pamphlet.

Hookes dedicated the first volume of his *Roman History* to Pope, which, he said, was "like hanging out a sign with a great name at the bottom of it, to catch the traveller as he goes by."

Lockman, a contemporary of Pope, though, by no means, the best poet in England, was something more, and better; he was one of the honestest men in it. Though called *the Lamb* among his first literary friends, he had the spirit to reply to a person who spoke rudely of his poetry, and who had a mark set upon him by Pope, "Thank God! my name is not at full length in the *Dunciad*!"

Homage to Genius.—Alexander, when he was sacking Thebes, such was his regard for Pindar, made no war with his descendants, and spared even the house he lived in.

Vanity is the passion of a little mind and a cold heart.—*Gregory*.

Churchill.—It has been said that Churchill had the courage to write what others had not courage to think.

Laughter.—Johnson asserts of the misanthropic Swift, that he stubbornly resisted any tendency to laughter. "I cannot recollect," says Mr. Pilkington, "that ever I saw the Dean laugh: perhaps he thought it beneath him; for when any pleasantry passed, which might have excited it, he used to suck in his cheeks to avoid laughing."

An author is the reverse of all other objects: he magnifies at a distance, but diminishes at approach. Life cannot be every moment employed in important matters. Great geniuses perform common things in the common manner. Only it is worth their while not to be seen engaged in trifles.

Translation.—Most translators are foot poets, who lackey by the side of their original, but never mount behind him.—*Dryden*.

Cock-fighting.—Pope, whilst living with his father at Chiswick, before he went to Binfield, took great delight in cock-fighting; and laid out all his school-boy money in buying fighting cocks. From this passion, but surely not the play of a child, his mother had the dexterity to wean him. He afterwards found, in the course of his profession as an author, the justness of the line in his friend Gay's fables, that

Wits are game-cocks to one another.

Elegant Criticism.—Young's satires abound with lines that seem to be written with a diamond instead of a pen.—*Tyler*.

Chesterfield.—Sherlock, the traveller, says

of Lord Chesterfield's *Letters*, "what in them is new, is not good; and what is good, is not new."

Pride of Ancestry.—The conclusion of the jocular epitaph of Prior, (who had himself been a tavern-boy,) is a complete victory over nobility of birth:

The son of Adam and of Eve—

Let Bourbon or Nassau go higher.

Or, the democratic couplet of the *Old Le-vellers*:

When Adam del'd and Eve span
Who was then a gentleman?

In vino veritas.—What the bottle tells, (which is generally a great tell-tale,) perhaps it is the duty of friendship to keep secret.

Addison Convivial.—When heated with wine, Addison's wit ran over, and he exemplified the observation on the flying-fish, which, in the poet's line, "soars highest when its wings are wet."

Blenheim.—This decisive battle was fought on a Sunday, on the morning of which Marlborough took the sacrament, being determined to conquer or to die. He might have said, in the words of the Dutch admiral Opdam: "Before night my head will be either covered with laurel or with cypress."—"Your Grace," says Tallard, who became Marlborough's prisoner, "has conquered the best army in the world."—"Your Excellency," replied Marlborough, "must except the army that beat it."

The Spectator.—Sir Roger de Coverley is understood to be drawn for Sir John Packington, of Worcestershire, a Tory, not without good sense, but abounding in absurdities. Tickell asserted that 20,000 of the *Spectator* were sold in a day; and, computing twenty to a number, it had 400,000 readers. It was written from Scotland, that when the story signed Amanda came out in the *Spectator*, "as the paper was generally read at breakfast, it mixed tears with a great deal of the tea that was that morning drunk in London and Westminster."—"The *Spectator*," says Voltaire, "puts your Platos out of countenance: and the morals of Plutarch are fit only for the grocer's shop or the trunk-maker's."

Garrick.—Lord Orrery prevailed upon Pope to see Garrick, (at Goodman's Fields playhouse,) when he broke out, as it has been applied to Waller, like the Irish rebellion, thirty thousand strong, in one of his popular characters. "I am afraid," said Pope, (who could see many a *Roccius* and *Æscopus* in one Garrick,) "that the young man will be spoiled, for he will have no competitor."

Andrew Marvell, to his garden:

Fair quiet! have I found you here?
And innocence your sister dear!
Mistaken long I sought you then,
In busy companies of men—

Society is all but rude
To this delicious solitude.

He who accepted wages from his constituents at Hull, (and he was the last representative who was literally a servant to the people,) who borrowed a guinea immediately after he had refused 1,000*l.* of Lord Treasurer Danby, had, probably, a garden for meditation, and not for show.

Addison.—There is no passing through the cloisters of Magdalen College, Oxford, without casting an eye up to the study-window of Mr. Addison, from whence his genius first displayed itself.—*Tyler's Historical Rhapsody on Pope.*

Handel's Music.—Pope could hardly believe the reality of what people affected to feel from Handel's grand compositions, till he consulted Arbutnot, who assured him of the vast powers of Handel. "I cannot help it," said Pope, at Lord Burlington's, where he often saw Handel, "but what I hear pleases me no more than the airs of a common ballad!" It should, however, be added that Pope parodied the first psalm.

Excellent Acting.—In 1718, Dryden's *All for Love* was performed at Blenheim, to amuse the Duke of Marlborough, on which occasion Bishop Hoadly wrote a prologue for the play. One Captain Fish supported the character of Mark Anthony so well, that Sir Richard Steele whispered the Bishop, "My Lord, I doubt this Fish is Flesh."

Pope.—It was once observed that if Pope deserved the name of a wasp, he was also entitled to that of a bee.

Rochefoucault.—Warburton used to say that Rochefoucault's maxims were the entertainment of the idle, the envious, and the worthless part of mankind.

Libels.—It may be some doubt in the eyes of morality, whether the purchaser of a satirical libel does not share in the guilt of the author; and whether the pleasure in reading is not of a criminal sort, and a proof of the malignity of human nature. There would be no thieves nor stolen goods, experience tells us, if there were no receivers; and no scurrilous writings, nor libellous prints, would be published, to corrupt the ear, or gratify the impudence of the eye, if there were no purchasers. (These sentiments are from Bayle's *Essay on Defamatory Libels*; and Lord Brougham once expressed himself in similar words, in a speech on the Newspaper Stamp Duties.)

Critics.—All reformers should be better than other men. But, it often happens, that many a verse and prose man, who has no character of his own to lose, attempts, without provocation, to take away that of another.—*T. Tyler.*

Pope's Satire.—As Sir C. H. Williams, a

great wit and courtier, was one day coming down the Thames with a friend, he pointed to Pope's house, where the bard was lying in his shroud, and cried out in the words of Falstaff: "I am afraid of the gunpowder Percy, though he be dead."

Woolseyan Egotism.—Bentley is reported to have said of Pope: "this man is always abusing me or the King."

Learning, like money and snow, accumulates very fast.

Pope's Enemies.—No man ever had so many enemies as Pope, nor was so well able to defend himself against them. "I wish," says Balzac, quoted in the *Spectator*, "I could pile up a mountain of stones that envy has flung at me." What the Dunces wrote against Pope, he collected, and the papers were intended to have been preserved in the British Museum.

Charles V. desires Erasmus, in Fontenelle's *Dialogues*, to inquire "what hindered him from being a stupidified blockhead?"—"It was nothing almost," says Charles: "a small disposition of the fibres, or some slender matter which escapes the search of the most exact anatomy."

George I., on hearing the highest praises on *Paradise Lost*, asked with quickness, "Why did not Milton write in prose?"

A good Wish.—Louis XIV. when he assisted James II. with a fleet and army for Ireland, said to him, "The best wish I can bestow is, that I may not see your face again."

The best friend is he who never deserts, till he is first forsaken.

Pope had such a melodious voice, that honest Tom Southern christened him "the little nightingale."

Cromwell.—More witty things are attributed to Cromwell than he appears to be entitled to: for Cowley says that "Cromwell did not leave behind him the memory of one wise or witty apophthegm, even among his domestic servants or greatest flatterers."

Pope's Essay on Criticism did not sell till he put his name to it.

Walking Webbs.—This great pedestrian was also a wit, and is said to have composed the following epigram upon pulling off his coat after his arrival at Rome from England:
Lie there thou coast, thro' various regions tost,
And take that nap which thou so long hast lost.

Economical Embassy.—Sir William Trumbull, the friend of Pope, is said to have walked on foot to Constantinople, where he was our ambassador.

Drinking.—No man was more beholden to the bottle than Addison. It was then, "when his pulse was made to beat quicker, he shone with the wit of Terence, when in company with Scipio and Lælius." Burnet observes

of Lord Dorset, "till his spirits were elevated with wine, he was but an ordinary man, but that drinking dissolved his oppression of phlegm," and enabled him to "set the table on a roar." We hear of Pope's drinking three very small glasses of wine before he left his guests, under his own roof at Twickenham, on his going to bed. Waller, the poet, drank no liquor but water.

Sickness.—The sufferings of the sick are greatly relieved by many trifling gratifications imperceptible to others, and sometimes almost repaid by the inconceivable transports occasioned by the return of health and vigour.

Mechanics v. Poetry.—It has been ill-naturedly said that the inventor of the wheelbarrow has done more service to mankind, than the writer of the *Iliad* and the *Odyssey*.

Reading overmuch.—Hobbes once said to a notorious bookworm, "if I had read as many volumes as you have done, I should have been as ignorant as you are."

Love of Gardening.—Dioclesian the Roman emperor, having abdicated, gave this memorable answer to one who invited him to re-assume the reins of government, and the imperial purple: "If I could show you the cabbages I planted with my own hands at Salona, I should be no longer urged to relinquish the enjoyment of happiness for the pursuit of power."

Failures.—Addison rose but once to speak in parliament, when the expectation of the house was so great, and the cries of "hear him, hear him," so thundered in his ears, that he was intimidated, and sat down. The memory of Lord Shaftesbury, when a commoner, deserted him, whilst speaking on a bill for allowing counsel in cases of high treason. Our great Tillotson thought he could preach a sermon extempore; but was soon obliged to descend from the pulpit, which was mounted immediately by Bishop Burnet, who had none of Tillotson's defect in his composition.

The Naturalist.

TREES AND PLANTS CHANGED INTO FLINTS.

At a meeting of the Royal Institution, on January 22, 1836, Mr. Faraday delivered an interesting and instructive lecture on the silicification of trees and plants:—"I do not profess, (said Mr. Faraday,) to have an extensive knowledge of geology, which is so desirable in treating of such a subject as fossil plants; but I trust that I have obtained sufficient acquaintance with the nature of the subject to make it popular. Before alluding to any of the theories which have been started, with the view of accounting for the extraordinary changes that silicified plants must have undergone, previous to their being converted

into a substance resembling flint, and still preserving their original form and colour, I think it advisable to give a short explanation of the chemical qualities of *silica*.

"This substance is a chief ingredient in the composition of all stones and earths: flint and sand are almost entirely composed of it. In the latter cases, it is sufficiently pure for a common test. It will not combine with some of the strongest acids; neither muriatic nor sulphuric have any effect on it, nor do they produce any chemical change: it will, however, combine with potass and other alkalis under certain circumstances. This is effected by mixing pure sand with carbonate of potass or soda, and heating the mixture; by this means a silicate of the alkali is produced, the nature of which depends on the proportions of the ingredients: by mixing one portion of pure silica with three of alkali, a mass is produced which may be dissolved in water: this solution, which is sometimes called liquor of flints, is decomposed by the stronger acids, which precipitate the silica as a gelatinous hydrate. This substance is soluble, to a certain extent, in water—a fact of importance in this investigation: if a considerable quantity of water is present, and the acid is gradually added, the alkali may be neutralized without the separation of the silica; when this is evaporated to dryness, the silica may be obtained in a pure state, and in an almost impalpable powder. If the proportions of silica and alkali are altered, and a larger portion of the former is mixed with a smaller portion of the latter, a substance is produced which is known by the name of glass, which is acted upon by none of the acids, except fluoric acid. Every kind of glass is produced by the combination of silica with an alkali; the difference in the quality is owing, either to the proportion of the elements not being the same; to the nature of the alkali; or the presence of other substances."

Mr. Faraday then exhibited magnificent specimens of agates, amethysts, chalcedonies, and a variety of different crystallized forms of silica, the several characters of which he proceeded to explain: he also directed the attention of his audience to several specimens of wood, which, though perfectly silicified, had still their characters completely preserved. Some of them had been found in the sandy deserts of Egypt; and some extremely fine specimens had been brought from Van Diemen's Land. One of the examples was the section of a fossil palm-tree, the exterior of which nearly resembled a tree in its original state; this he compared with a corresponding section of a palm-tree from the collection of Mr. Brown, the distinguished botanist. Mr. Faraday observed: "Not only has the external character of the silicified tree been preserved, but the internal arrangement is

not in the least degree destroyed; for all the vessels have preserved their original forms, and these are more beautiful and distinct in this specimen, than any that can be procured by the section of a living tree; indeed, so much is this the case, that it may almost be said, that the internal structure of a tree which has been turned into flint, can be examined with greater attention and nicety than in any other way. It often happens that the silicification not being complete, the interior is silicified, while the exterior is decayed: or the interior has perished, while the exterior is preserved in a fossil form: at other times, the internal, fibrous part is decayed, while the leaves and seeds are preserved in this shape."

In a great variety of specimens which were exhibited, the whole form and structure of the tree was changed, the vegetable fibre having become a solid mass of flint, while none of the organs appeared to be destroyed. "This change," said Mr. Faraday, "cannot be effected by any modern practice. It would be impossible by any mechanical means with which I am acquainted, to fill up all the parts of a piece of wood with water or spirits of wine, without destroying more of the internal vessels by the process, than is done in the case of the silicified trees and plants. Even those plants, which are most light and yielding in their texture, are preserved in as fine a manner as when living. The change is very remarkable in the endogenous class of plants, such as the palms, which are increased by a continued addition of fibre-cells or vessels from the centre, where, of course, the fibres were extremely close together; but all of which have been filled with silica: it is still more curious, however, in those exogenous plants which have increased by external layers, many of which are most irregular; but their change has been complete as in other cases."

Mr. Faraday then referred to a specimen of silicified oak-tree, in which the form and colour of all the vessels, together with the various knots, had been preserved, though the whole was a mass of flint. Some specimens of silicified trees, (continued Mr. Faraday,) which have been recently brought from the Island of Antigua, were changed while in a state of decay. This decay having been suddenly stopped, a complete alteration has taken place in the character of the substance. So well is the appearance of these plants preserved, that a botanist can at once determine their character: sometimes the change is so complete, that it cannot be perceived by mere visual observation.

At the present time, many things are found in the vicinity of the Geysers, or boiling fountains in Iceland, which are completely incrustated with silica; in fact, the waters of the Geysers are only an alkaline

solution of silica, produced by heat; and this is probably, the cause of their violent action. The plants thus acted upon are by no means completely silicified, nor do they continue in a permanent form. There is no evidence that the process of silicification is going on at present. It has been stated that the waters of some rivers possess this power: such is said to be the case with the Danube, near the ruins of the bridge of Trajan; and also in Lough Neagh, in Ireland. There are some recent cases, which have been referred to as a proof, that the waters of Lough Neagh possess this quality. He then exhibited a specimen of what was alleged to be silicified wood from this lake. "It cannot," said Mr. Faraday, "have undergone this change to the extent that appears in other instances, as parts of it are carbonified, and would burn when exposed to a strong flame. There is no doubt, however, that a part of it has been acted upon by the silica, as the bark has apparently become fossil. Mr. Lyall states that he has met with some specimens of the seeds of plants now alive, which have been silicified. To this extent only does the evidence go, that the process is going on at present. Any satisfactory theory on this subject must not only account for the change in trees and plants, but also for the formation of agate, amethyst, and amorphous quartz: I am satisfied that it cannot be produced by heat; indeed, it appears that there is no satisfactory evidence to prove that silica can be crystallized by heat. Dr. Macculloch has stated some facts with the view of showing that he succeeded in volatilizing silica by an extreme heat, and that it afterwards crystallized from a state of vapour. It appears that the Doctor met with a number of crystals on the side of a crucible in which he had placed some rock crystal, exposed to a great heat. At first, he supposed that they were formed of a metallic oxide; but, on subjecting them to experiment, he found himself mistaken. These crystals were insoluble in the most powerful acids, but with alkalies they had the effects of silica. I should suppose that there was not sufficient attention paid in this experiment; and probably there was a portion of feldspar present with the rock crystal, which will account for what was met with; at least, it will not be justifiable to adopt the result, without further inquiry."

"There are a number of theories of silicification; but that of Dr. Turner appears to be the best. He supposes that the change in these trees and plants has been brought about by the infiltration of water through them, which contained a solution of an alkali and silica; the silica being absorbed with the water into the plant, until the whole mass of it was changed. This theory, however, is open to great objection; it will not account

for the formation of the centre of agates, nor for the change that has been effected in wood of such close fibre as the riddle of palms: it is contrary to the established rules of natural philosophy to suppose that the interior of these trees has been filled up from the centre; and it is doubtful whether this theory will sufficiently explain the mode by which silica is conveyed into trees and plants, so as to supply the place of what formerly existed there. It is obvious that, by this means, some considerable time must elapse before the process would be completed; yet, we have every reason to believe, from an inspection of the specimens before us, that the change has been produced within a very short period. There is on the table the core of a cabbage, the delicate fibres of which are preserved entire; and this is the case with other plants which are known to live no more than a day. Dr. Turner's theory does not sufficiently account for the complete preservation of the trunk, with all the interior vessels, as well as the most delicate exterior part, in their most perfect shape. I do not think that such a complete change would be occasioned by infiltration. I agree, on this point, with Dr. Macculloch's observations on the vegetable remains found in chalcedony, in which he supposes that a watery solution would not produce the result in consequence of the time it would take. But a watery solution of silicic acid seems so indispensable for this purpose, that it is superfluous to insist upon it."

"Of such watery solutions, there are abundant examples existing, examples which it is unnecessary to quote; but the instances under examination offer to our consideration, views still more wide and more interesting, however difficult their explanation may be. On reviewing some of the cases above described, it is plain that a different process from the tedious one of infiltration and gradual deposition must have produced these appearances. Neither the free disposition, nor the forms of the delicate vegetable structures could have remained unaltered: the loss of colour must have followed the death of the plant; and the total loss of its figure would have resulted from the gradual changes which it must have undergone, during the continuation of so tedious a process. The remains must have been completely changed before they had begun to decay. To produce this effect, we can only conceive a solution of silicic acid in water, so dense as to support the weight of the substance in it; and which would either solidify in a short period, or be capable, at least, of suddenly gelatinizing, previously to the ultimate change by which it became solidified into stone.

"I need not point out the extreme importance of this supposition to any general theory of the earth: it is for chemistry to

investigate experimentally the mode of imitating this unknown process. Those who know the present state of this science, will not hesitate to admit its imperfections; and those who have attended to its rapid progress will not despair. It would be unphilosophical to adopt a theory which does not fully explain the various phenomena presented in this case; for it would tend to stop inquiry, and render persons lazy and satisfied with less than the truth. It were better to admit, that they had not sufficient evidence to account for the changes these substances have undergone, than adopt a theory which is improbable, and open to so many objections. Though I am not prepared to give any theory on the subject, yet I cannot help observing, that I have no doubt but that the errors which have hitherto prevailed on the cause, have arisen from the want of a thorough knowledge of the properties of silica. I trust that the period is not far distant when the attention of chemists will be called to this substance, which, if carefully examined, will prove that these phenomena, which at present appear difficult and unaccountable, may be easily explained."

W. G. C.

ERRORS RESPECTING BATS.

(From Part I. of *A History of Quadrupeds*. By Thomas Bell, F. R. S., &c.

It is perhaps difficult to account for the prejudices which have always existed against these harmless and interesting little animals, which have not only furnished objects of superstitious dread to the ignorant, but have proved to the poet and the painter a fertile source of images of gloom and terror. That the ancient Greek and Roman poets, furnished with exaggerated accounts of the animals infesting the remote regions with which their commerce or their conquests had made them acquainted, should have caught eagerly at those marvellous stories and descriptions, and rendered them subservient to their fabulous but highly imaginative mythology, is not wonderful; and it is more than probable that some of the Indian species of bats, with their predatory habits, their multitudinous numbers, their obscure and mysterious retreats, and the strange combination of the character of beast and bird which they were believed to possess, gave to Virgil the idea, which he has so poetically worked out, of the Harpies which fell upon the hastily-spread tables of his hero and his companions, and polluted, whilst they devoured, the feast from which they had driven the affrighted guests. But that the little harmless bats of our own climate, whose habits are at once so innocent and so amusing, and whose time of appearance and activity is that when everything around would lead the mind to tranquillity and peace, should be forced into scenes of mystery and horror, as an almost

essential feature in the picture, is an anomaly which cannot be so easily explained.

The views entertained, even by the most celebrated naturalists of antiquity, respecting the nature of these animals, were extremely vague. Aristotle himself, whose genius seems to have discovered, by an almost intuitive perception, the relations of natural objects, and the comparative value of external forms and structural characters, speaks of them as having feet as birds, but wanting them as quadrupeds; of their possessing neither the tail of quadrupeds nor of birds;—of their being, in short, birds with wings of skin. He is followed, but with increasing error, by *Ælian* and by *Pliny*; the latter of whom says, that the bat is the only bird which brings forth young ones and suckles them.* Even up to a late period they were considered as forming a link between quadrupeds and birds. It were a vain and useless task to recount every slight modification of this pervading error. The time has long gone by when nature was accused of the most extravagant vagaries by the professed investigators of her laws, and when the absurd expression of "*lusus naturæ*," or other equivalent follies, was forced into their service to account for all the wonders which their own limited views and scanty information failed to explain.

The common language of our own ancestors, however, indicates a much nearer approach to the truth in the notions entertained by the people, than can be found in the lucubrations of the learned. The words *Revermouse* and *Flittermouse*, the old English names for the bat, the former derived from

the Anglo-Saxon "*Armsan*," to raise or rear up, and "*Mus*,"—the latter from the Belgic, signifying "flying or flittering mouse,"—show that in their minds these animals were always associated with the idea of quadrupeds. The first of these terms is still used in English heraldry; though, I believe, it has ceased to belong to the language of the country. The word *Flittermouse*, corrupted sometimes into *Flintymouse*, is the common term for the bat in some parts of the country; particularly in that part of the county of Kent, in which the language, as well as the aspect and the names of the inhabitants, retain more of the Saxon character than will be found perhaps in almost any other part of England.

Popular Antiquities.

SEAL OF KING WILLIAM THE CONQUEROR.

THE annexed Cut shows this interesting relic, engraved in the *Archæologia*, vol. xx, pt. 2, for 1834, from a cast taken in the Hotel Soubise, at Paris, by Mr. Doubleday, from the seal of the Conqueror, appendant to the deed by which that monarch granted land at Teynton, in England, to the Abbey of St. Denis, near Paris.

This impression of the Conqueror's seal is the clearest and most intelligible at present known; although it has lost a small, but fortunately, an unimportant, portion of its inscription. No engraving of this seal hitherto published has done it justice, either in general accuracy or the minuteness of detail. The manner of fastening the helmet, as visibly described upon the Norman side of this seal, has not been before represented, nor has the lengthened form of the kite-shaped shield been heretofore given in its full extent. The

* *Volucrum animal parit vesperillo tantum : eadem sola volucrum lacte nutrit, ubera admovent; geminos volitat amplexa infantes, secumque deportat.* Plin. Hist. Nat. lib. x. c. xli.



(Seal of King William the Conqueror.)

large size and hollow form of the inner sides of the Norman shields, furnished with which the leaders of the Norman armies are usually represented, answered other purposes besides that of mere personal protection in battle. The warrior could sleep within it, or, if he slept sitting, could be protected by it, while in the camp; as is shown in the representation of a warrior in an illumination of a MS. breviary of the twelfth century, preserved in the library of Mr. Coke, at Holkham, in Norfolk. This same large and hollow shield also offered the means of carrying the warrior from the field of battle, when dangerously wounded. Such an application of the shield, it may be observed, was made in early times among the Greeks. Potter says: "Most, indeed, of the ancient bucklers seem to have covered the whole body, whence we read of the famous command of the Spartan mothers to their sons: 'Either bring this,' meaning the buckler, 'or be brought upon it!'" The anecdote is related in Plutarch's *Apophthegmata*.

The Public Journals.

A PROMENADE IN THE ZOOLOGICAL GARDENS,
REGENT'S PARK.
(Continued from page 59.)

THE mutual hatred between the rhinoceros and elephant has been the theme of many a tale, from Sinbad's description of the fight, so characteristically terminated by the roc carrying off both combatants in her claws, to the less questionable relations of modern travellers and historians. When the rhinoceros before us first arrived, the elephant certainly showed no good will towards him; but there was a reason for this. The crowds that used to surround the elephant, and reward him with cakes and fruit, deserted him for the new comer, and we have seen poor Jack, at such times, go through all his tricks without a single spectator, in the hope of regaining the popularity which his rival was taking from him before his face. When these two animals were conducted to their new abode a scene occurred which may, perhaps, throw some light on their alleged mutual aversion. They were lodged close together, but so that one could not be seen by the other. The apartment of the rhinoceros was separated from that of the elephant by two doors; the door nearest to the rhinoceros being of oak, and that next to the elephant of deal. The elephant one day broke the deal door with his tusks, and then made a push at the exposed oak door, which carried it off its hinges. What happened before the keepers came they of course knew not; but when they arrived, they found the rhinoceros in the apartment of the elephant, standing at right angles with him, and with his head under the elephant's belly: the latter, to use the

expression of the keeper, was "all of a tremble." The young female elephant, which was at that time confined in the same apartment with the large one, had apparently escaped from the scene of action by entering the rhinoceros's apartment, where she was discovered, standing quietly. The large elephant and rhinoceros were then separated by the keepers, the rencontre not having produced the slightest injury to either.

The relative sagacity of the two animals was well shown, soon after they took possession of the house from which they are now excluded. The rhinoceros was one day observed pushing his straw to the side of his apartment within reach of the elephant's trunk, who protruded that organ round the end of the partition, and from time to time bore off the litter. Trunkful after trunkful was abstracted, but still the *lourd* rhinoceros continued to push the straw towards the place whence it disappeared: the twinkle in the elephant's eye, as he enriched his own bed at the expense of his simple neighbour, was capital.

Few contrasts are greater than that between these heavy masses of flesh and bone, and the light, the elegant giraffes, with their sleek, rich, dappled coats, towering swan-like necks, lofty heads, and large brilliant eyes, worthy of Juno herself, and full of a noble expression, such as Edwin Landseer alone could give. The sweep of their vision is most extensive; for they can see before them below them, and behind them, without turning the head. What an idea does it convey of the power of modification, when we recollect that the number of neck-bones in the elephant and in the giraffe are exactly similar! Can we wonder at the emotion with which Le Vaillant saw the first traces of a giraffe, or at the ecstasy—was it not mingled with pity—with which he was possessed when the first lay extended at his feet? He had before him an animal whose very existence was at that time questioned and treated by many as a fable. What a magnificent spectacle must it be to see a herd of these splendid creatures (and we know those who have seen them by forties and fifties at a time) browsing on the mimosas with their long, flexible tongues so beautifully adapted for the purpose.

Leaving the tapers coolly taking their bath while all the world is melting around them, we enter the *limbus* of macaques, squirrels, mice, and "such small deer," nor must we omit the chinchilla whose spoils so well adorn and protect our fair countrywomen. The door opposite to the entrance leads to the apartment where lived—alas! that we must write *lived*—the most amiable of *Quasimodos*, the chimpanzee!

Quando ullum inveniet parem?
Multis ille bonis seclibz occidit.
Nulli seclibilior quam tibi—Theodori!

Peace to his manes! We must take a turn amid the Reeves's pheasants, the peacocks, the curassows, and the other lively denizens of the north aviary to calm our feelings. How varied are the poultry: both the Indies have contributed their share; and the jungle-fowls, from which some of the best zoologists insist that all the varieties have proceeded, shine pre-eminent. The discrepancy between these, especially Sonnerat's jungle-fowl, the *Gallus Bankiva*, and their alleged descendants, is strongly marked, and has made many hesitate to adopt the opinion of Temminck and others; but those familiar with the consequences of a long series of years passed under the improving eye of man will be less startled at the proposition. That well-known performer who is to be found caged in every house where the inmates are fond of song-birds is so changed by domestication, that, like the dog, it has assumed varieties almost endless, and, in some instances, so different from the original stock, that the captive would now be hardly recognised as a descendant of the "birds singing free" in the happy valleys of the Canary Islands.

"The forest monarch's roar" reminds us that the great repository and the dogs are still unvisited; but we must return through the tunnel and view the finest collection of parrots ever assembled. Open your eyes and shut your ears—was there ever such an assemblage of rainbow colours—was there ever such a distracting din!

Mark that elegant parakeet with its pure golden plumage. It is a variety of *Pakeornis torquatus* which is placed beside it. Observe it on the hand of its favourite keeper, expressing its fondness by a thousand winning ways. It is formed to be the *delicia* of some beauty. Its delicate shape and hue would well grace her fair hand, and the murmuring caresses of its coral beak would be better lavished on her sweet lip than our worthy friend's bristly chin.

Quitting the parrot-house we come upon the breeding-ponds, where may be seen, side by side, two lovely forms, one from the east and the other from the far west. The gorgeous mandarin drake*—but he is hardly worthy of a look now. It is in the very early spring when he appears full-dressed in his *plumage de noce*, that he throws all other ducks, or rather drakes, into the shade, not excepting the beautiful American†—the "summer duck"—that swims near him.

Now to the palace of the monkeys, ever active, prying, and mischievous. Those of about the same size engaged in a scuffling fight for a nut—the larger tyrannizing over the smaller—some swinging by their tails—others by their hands—all busy, all chattering, except that silent little group in the

corner, looking on with philosophic melancholy, but still unable to repress a sigh at their own nutless condition; they have so often had their nuts, when fortune has thrown them perchance in their way, abstracted by the strong hand, with a cuff and a bite in lieu of them, that they have at last retired from the scramble, hopeless, and resigned. If any visiter be disposed to refresh their spirits, let him tender his snuff-box, and keep off the stronger boys with his cane.

But who can look at apes when "monkey green" is crowded with England's richest beauty. Here is every variety of clear complexion—*ce beau sang*, as we once heard an impassioned Frenchman ejaculate in his admiration at the scene, with such an emphasis on the *beau*, as none but a Frenchman can give—every hue of flowing hair, from the gold-sunshine of the delicate blonde, with "a skin like paper before the priest has stained it with his black unguent," to the intense darkness of the raven tresses that arch the bent brow from beneath which shoot the penetrating glances of the *bonnie black e'e*. We, being sober and cautious Tories, must tear ourselves away from these "breathing roses," and proceed to the flower-garden; for a very pretty flower-garden it is. Those who know that it was only commenced in 1835, and remember the show of dahlias in the last autumn, the star of crocuses this spring, and the general well-kept-up succession of bloom, will be inclined to think that Mr. Sabine possesses the lamp of Aladdin. We give him our hearty thanks for this treat, and we only wish that he could have heard the praises that many a fair creature, "candidior cygnis," has bestowed upon the work.

With correspondents in every part of the world, sending home rare animals and interesting papers, the Zoological Society may fearlessly say, with her geological and geographical sisters,

"*Quæ regio in terra nostri non plena laboris.*"

Already the provinces exhibit the influence of the parent society. To say nothing of "The Surrey," one of the prettiest lounges in the neighbourhood of London, and surpassingly rich in *carminora*,‡ the societies of Liverpool, Dublin, and Bristol, have all sprung up. The more the better. Those are the recreations worthy of a reflecting people, and the more widely they are disseminated, the wiser and the more civilized will the people become. No observer can look upon the endless variety of forms presented in such establishments, without being struck by the wonderful adaptation of means to an end manifested in each; and the deeper he goes

‡ These animals seem to thrive so much better on the Surrey side than in the Regent's Park, that we cannot but think the differences in the modes of feeding, &c., should be narrowly inquired into—but we fear the great evil is the London city.

* *Anna gallericolata*.
† *Deudronessa cygnis*.

into the science, the more will he be obliged to confess that all are "fearfully and wonderfully made."

But the subject is inexhaustible, and we are apprehensive, gentle reader, that, in our affection for a favourite hobby, we have been riding him about a little too much at your expense—though we have passed by many, many living rarities entirely unheeded. Retiring, then, by the southern gate, which lets us into what will, when the trees are tall enough to give instead of receiving shelter from Christians, be the finest mall in all England, we quit the Garden—but not without "a longing, lingering look behind"—*Floreat!*

OLD STANEA, ON A KNIGHT OF JERUSALEM
OF THE DEVON FAMILY, WHO WAS
DROWNED ABROAD.

From an ancient manuscript Volume, containing the
History of the Earls of Devon.

Where'er thou art, whom chance or pleasure leads
To this sad river or the neighbouring meads,
If thou may'st happen, on the dreary shore,
To find the man whom all his friends deplore,
Cleanse the pale corpse, with a religious hand,
From the polluting weeds and common sand;
Lay the dead hero graceful in his grave,
The only honour he can now receive;
The fr-great mould upon his body throw,
And plant the warrior laurel o'er his brow,
(Light lie the earth, and flourish green the bough!)
And, stranger, place the Cross above his sod,
Whom loving hearts did grudging give to God.
Metropolitan.

A CHINESE ROMANCE.

In some Chinese romances and tales, we find a considerable share of wit as well as sentiment. From one of these, Voltaire has not disdained to borrow one of the best stories in his *Zadig*. A disciple of the sect of *Tao-tee*, or Doctors of Reason, while meditating among the tombs, observed a young lady seated by one of them, eagerly employed in fanning the structure. On approaching the spot, and seeing her in tears, he ventured to ask whose tomb it might be, and why she took such pains in fanning it? The lady, with great simplicity, replied, "You see a widow at the tomb of her husband: he was most dear to me, and he loved me in return with equal tenderness. Afflicted at the idea of parting with me, even in death, his last words were these—'My dearest wife, should you ever think of marrying again, I conjure you to wait, at least, until the plaster of my tomb be entirely dry; after which you have my sanction to take another husband.' Now, said she, as the materials are still damp, and not likely soon to dry, I thought I would just fan it a little to assist in dissipating the moisture."—"This woman," thought the philosopher, "is in a monstrous hurry;" and having recently taken to himself a beautiful wife, he hastened home to apprise her of

the adventure.—"Oh the wretch!" she exclaimed, "what an unfeeling monster! How can a virtuous woman ever think of a second husband? If, for my misfortune, I should ever lose you, be assured I should remain single for the rest of my life."

"Fair promises," thought the philosopher, "are easily made; but we shall see." He suddenly became dangerously ill; a tender scene occurred; the lady vowed eternal remembrance, and repeated her resolution to remain a widow to her dying day. "Enough," said the philosopher, "my eyes are now closing for ever;" and so saying, the breath departed from his body. The desponding widow, with loud lamentations, embraced the lifeless body, and held it locked in her arms. Among the mourners who assembled on the melancholy occasion, was a youth of fair exterior, who said he had come from a distance to place himself as a pupil under the deceased sage. With great difficulty he procured a sight of the widow; she was struck with his appearance: she saw him again on the following day; they dined together, supped together, and exchanged tender looks and expressions. The youth was half smitten, the lady wholly so; a marriage was speedily agreed upon: the youth, however, previously demanded three conditions, one of which may suffice for our notice: it was that the widow should forthwith turn out of the house the unsightly coffin that contained the remains of her late husband. The lady readily consented; the coffin was sent into an old shed at the bottom of the garden.

Preparations were now made for the marriage feast, but the bridegroom was suddenly seized with convulsions and fell on the floor. The bride was desired by his domestic not to be alarmed, for that these fits were not unusual, and that there was a cure for them—the only and certain cure—the brain of a man recently deceased, taken in warm wine.—"Oh!" said the lady, "my late husband has been dead only a few days; get me a hatchet, and I will go myself and open the coffin, and take out the remedy." Thus fortified, she posted away to the bottom of the garden, and striking a blow with all her might—behold! the lid flew open, a groan was heard, and, to her great horror, the dead man rising up, very coolly said, "My dear wife, lend me your hand to get out." The unhappy inamorata, finding all her intrigues discovered, and unable to survive her shame, hung herself to one of the beams. The philosopher found her, and having satisfied himself that she was quite dead, cut her down very coolly; and having repaired his own coffin, laid her in it, fully determined never to take another wife.—*Quarterly Review.*

Notes of a Reader.

M. FELLEBERG'S ESTABLISHMENT AT HOFWYL, IN SWITZERLAND.

(Abridged from Mr. Macgregor's Note-Book.)

"THE most prolific source of crime, sedition, and the bloodshed on scaffolds, is the false education of the people.

"Labour is the great moralizer of man, and rural labour has this particular advantage, that the property which it acquires, inspires a respect for the rights* of others."

These, (translated from his own language,) are the maxims of Emanuel Von Fellenberg:—not of a demagogue, but of a nobleman, and who, if he were not, would with his soul have been noble, although born the son of a peasant.

Hofwyl, the scene of M. Von Fellenberg's philanthropic experiments, is within less than one hour's brisk ride of Berne. It is one of the most interesting scenes of intelligent industry in the world, situated in one of the most beautifully rural spots in Europe. The buildings are chiefly on the brow of a hill, the Jura chain sheltering them from the northern blasts. The inferior mountains extend to the east, and the eternally snow-clad Alps appear beyond them in the distance. On one side lies the water of the *Buchsee*, a clear, picturesque stream—on the other rises and extends the wood of *Grauholz*. Such is the situation of Hofwyl, the seat of the patrician family of Fellenberg, and of its present representative, to whom the property and that of *Meinchen-buchsee* adjacent belongs.

Von Fellenberg had early in life remarked the extreme profligacy of the poor in the Swiss Cantons, and the moral superiority of those who, like the pastoral people of the Alps, live comparatively independent in their means—while pauper children, especially in the towns, were invariably brought up in ignorance and vice. He was by constant and vigilant observation led to the conclusion that the most effectual way to make people better, was to make them comfortable. That morality and comfort through life are to be most effectually secured by bringing up children from early years in habits of industry; and, at the same time, that the best education for them was to cultivate their minds with a view to virtuous conduct, and to useful purposes.

With this philanthropic object steadily in view, the excellent Von Fellenberg commenced the rudiments of his plan for educating pauper children. The great principle of his plan—useful and intelligent labour—†

* Not meant to extend to assumed or despotic rights, but respect for person and property.

† A man may be industrious with little intelligence. He who makes only one part of a watch, or of a steam-engine, probably understands nothing of the principles of machinery. At Hofwyl, the object

was grounded on the fact, that the greatest portion of mankind must live by labour, and, consequently, that those who are habituated to labour from childhood, are the happiest of the working classes. He began by essaying what could be done with one poor orphan. He then appropriated two large farms, the one as a practical *ferme modele*, the other to the purposes of new experiments in agriculture. The children taken, after the first successful experiment, were chiefly from the mendicant poor of Berne, who led a life not dissimilar to that of gipsies. The principle first attended to, was to treat the children with uniform kindness, and as rational beings, by which means their affections and confidence were won and secured. M. Von Fellenberg observing that, in case of misconduct, an unsatisfactory reason was always uttered with confusion of manner, took advantage of this natural symptom of misconduct, and established the rule of asking the children to give reasons for what they did; this became in practice an excellent regulator of conduct. He laid down also, as a second principle, that no humiliating chastisements should be inflicted, and that none of the ordinary means of encouragement should be adopted—that there should be neither high nor low in the classes—no prizes—no medals—no whippings—increasing the tasks during the hours allotted for recreation forming the sole punishment. The children are allowed to justify themselves with perfect liberty of speech, and are heard with patience, and reproved with tenderness of language that produces gratitude, allays angry feelings, and prevents the deceit which severity engenders.

M. Von Fellenberg's plan specially embraces the uniting with useful labour, those amusements which unbend the minds, and gladden the hearts of youth, to unite liberty with established rules of property and order, and to prepare all for their avocation through after life, and for their intercourse with the world, in whatever sphere they may be employed. In cases of misconduct, pointing out calmly to a child its errors in private, is admirably conceived. The early feelings of tenderness are thus not wounded, the angry temper is not irritated, the child is not excited to contradiction by the vanity of appearing in spirited opposition in presence of its school-fellows; silent reproof impresses deep self-regret and virtuous conviction, while open degradation renders the feelings callous, and gives birth to artful inventions to deceive the master and school-fellows of the delinquent. M. Von Fellenberg's triumphant success for thirty-four years, on his own

is to teach the scholars to depend on their own ingenuity and knowledge as agriculturists; that they may mend or make the wooden work, if not the iron work, of a plough, harrow, or rake, if necessary.

responsibility, and for a long time opposed by the advocates of established practices, proves also that his maxim is much better, to rid a school of an unreclaimable boy, rather than enforce a system of public castigation.

These principles comprise the leading rules of the plan on which M. Von Fellenberg commenced, and which he has put in practice with such eminent honour to himself and such benefit to his fellow creatures. Few men, however, have encountered more malicious opposition. To annihilate his reputation, he was designated an underminer of order, of established customs, and of religion—a mad enthusiast, an ambitious character, who, with a view to power, aimed at political distinction—these were the epithets bestowed on him by the aristocrats of his country. He, however, persevered: the good cause prevailed—he extended his plan, and then established a normal school; but the worthy oligarchs of Berne passed a law for its suppression. The people were roused in consequence; the law was rescinded, leaving, however, the nomination of the director of the school to the Government, whose tool he became, and exercised his functions so designedly improper, that he has been expelled.

I did not see M. Von Fellenberg—he was for the moment absent—but all the information I required was communicated to me; every arrangement explained, every operation and experiment pointed out and elucidated by the superintendents or teachers. To the two farms are attached workshops for making all kinds of agricultural implements on the most approved models, and an admirable institution which is devoted to the theory and practice of agriculture. Here also is a museum in which plants are classified according to their utility, not scientifically, but with their stalks, roots, leaves, flowers, and seeds: also specimens of most kinds of wood, and of birds, reptiles, quadrupels, &c., prepared by the boys. These collections afford at once instruction and amusement. The winter evenings are spent in this room by the poor children with their master, the good Werhli; and on Sundays, after divine service, they go forth to the hills and woods, in search of whatever may enrich their museum.

One hundred pauper boys, and the same number of pauper girls,* are wholesomely fed and warmly clad at the expense of Von Fellenberg. They cultivate the largest farm to remunerate him in some degree for their maintenance and instruction; and their parents, or those who have had them in charge, agree that they shall remain until the age of maturity; by which arrangement they acquire the habit of sober industry, and understand how to appreciate the value of labour before

they leave Hofwyl to begin the world on their own responsibility. About ten hours in summer are spent in labour and in agricultural instruction in the fields; and one hour, (a short time it is true, but sufficient,) is devoted to school instruction, which includes, not only reading, writing, and calculation, according to the system of Pestalossi, but also a knowledge of plants, animals; earths, chemical phenomena, &c. In bad weather, they work within doors: the boys are instructed by carpenters, joiners, and blacksmiths, in making various articles useful in cottages and on farms; the girls in knitting, carding, spinning, plaiting straw, &c.

Their assiduously vigilant and kind headmaster, Werhli, under the special direction of Von Fellenberg, keeps a journal of all that regards each child, from the moment of its admission, noting its natural disposition, character, religious, moral, and intellectual progress, and its application to labour.

To develope and maintain a spirit of cheerfulness with active alertness, is an object of the first consideration with Werhli. He never speaks to them but smilingly, and in tenderly kind expressions. He works, he sleeps, he converses, and sings with them. Labour and order thus wisely persevered in, overcome all the moral obstacles of perverse, early habits: such has been the effect of this admirable plan, that the children of the most vagabond beggars, collected here and there from the abodes of misery, are trained and reclaimed without the least occasion for corporal chastisement.

Besides the establishment for the children, there is an agricultural school in theory and practice for boys of the middle and higher classes: these scholars receive a superior education, in mechanics, natural history, and agriculture, on a principle of utility, in which art, science, and literary education are combined. The trades useful in connexion with agriculture, the German, English, French, and Italian languages, are taught; and also music, natural history, gymnastic exercises, the use of fire-arms, and the bow and arrow, to lend cheerful amusement to the more solid studies.†

The normal school, or school for preparing village schoolmasters, is, perhaps, in extensive usefulness equal, if not superior to either of the others: the masters taught there have now (1834) more than eight thousand children under their care in various parts of Switzerland.

In all its divisions of instruction and labour, Hofwyl, if not perfection, has the aspect of greater harmony than any institution that I have had the fortune to know. Here are children of various christian deno-

* Von Fellenberg's sister has the girls, under her special charge, taught by competent matrons.

† There are about twenty English boys, besides Swedes, Russians, and Germans in this school.

minations, yet religion creates no dissensions. The worship of God is taught by the respective clergymen, chiefly by tracing the beneficence of the deity in his works, and by prayers of adoration and thanksgiving, with hymns and patriotic songs. Vocal and instrumental music are taught with equal liberality. The great end of Von Fellenberg is to render mankind useful and happy—his name will descend to posterity not as the patrician, but as the great patriarchal schoolmaster, with more honour and renown than that of any oligarch or conqueror.

ASCENTS OF MONT BLANC.

(Chiefly from Macgregor's *Note-book*.)

In 1762, a first attempt to ascend Mont Blanc was made unsuccessfully by three chamois-hunters, in consequence of the encouragement held out by M. de Saussure.

In 1775, four Savoyards made a second unsuccessful attempt by the mountain de la Côte, along the side of the glaciers of the Bossons.

In 1783, three chamois-hunters, by the same route, ascended until they were so overcome with drowsiness, as not to be able to proceed farther.

In the same year, M. Bourrit made the attempt, but was met and compelled to return by a tempest.

In 1784, the same enterprising men, in September, attempted the route west of the Bossons; but cold and fatigue arrested their progress at a great height, and two chamois-hunters proceeded even so much farther than the others, that they reached within about one hundred and fifty feet of the highest culm.

In 1785, MM. de Saussure and Bourrit resolved, if possible, to reach the summit; and with fifteen guides they succeeded so far as to ascend the first night eight thousand five hundred and thirty-two French feet above the level of the sea. Here they constructed a tent and passed the night, and next day reached an elevation of eleven thousand four hundred and twenty-two feet, when the snow became so soft as to render further ascent impossible; the heat was also insupportable, although the thermometer was only two to five degrees of Reaumur in the shade, and four to seven degrees in the sun.

In 1786, six men of Chamouni were tempted to renew the ascent. One of these, a remarkably hardy man, James Balmat, lost his way, and passed the night near the summit of the glaciers, and in the morning observed the culm at no great distance, and an easier way to its summit. His youth and vigour enabled him to descend to the valley. On the 7th of August following, he left Chamouni, accompanied by Dr. Pacard, and, after most extraordinary efforts, they reached

the highest point on the following day at seven o'clock. After passing twenty hours among the snows and glaciers, they returned, after much suffering, to the village. Both their faces were dreadfully swelled: that of Dr. Pacard was for eight days so distorted as to be hardly recognised. In the same year, M. de Saussure accomplished his celebrated ascent. The succeeding attempts were:

Aug. 1787. The late scientific and ingenious Colonel Beaufoy, of England.

Aug. 1788. Mr. Woodley, of England.

Aug. 1802. Baron Doerthuesen of Courland, and Mr. Fornerer of Lausanne.

Sept. 1812. M. Rhodes, of Hamburg.

Aug. 1818. Count Matezschki, of Poland.

June, 1819. Dr. Renselaer and Mr. Howard of the United States.

Aug. 1819. Captain Hundel, of England.

Aug. 1820. Dr. Harmel, of Russia, and Mr. Durnford, of England, reached the grand plateau with twelve guides, when an avalanche fell and buried several, of whom three perished.

Aug. 1822. Mr. Tree Clissold, of England.

Sept. — Mr. Jackson, of England.

Aug. 1825. Dr. E. Clark, and Captain Shirwell.

July, 1825. Messrs. Fellowes and Howes, of England.

Aug. 1827. Mr. John Auldjo, who has given a most interesting narrative of the ascent.

Sept. 1834. Dr. Martin Barry.

1836. On the 7th and 8th of last month, Mr. Alfred Waddington, with six guides, three volunteers, and five assistants, ascended Mont Blanc most successfully. (See *Literary Gazette* of Saturday last, p. 493.)

One woman, called Mary of Mont Blanc, has been at the summit.

The Gatherer.

China and Ireland.—The surface of China, by the most correct maps, may be taken at 1,080,000 square miles, or 1,075,200,000 acres. A recent census makes the population amount to the enormous sum of 360,000,000, which is nearly 30,000,000 more than that which was given to Lord Macartney—but take it at 300,000,000, and we have about 180 persons to a square mile, and 3½ acres to each person. If Ireland has 31,250 square miles, or 20,000,000 acres, these would give her about 3 acres to each individual, and 224 persons on every square mile. But the two countries and nations in all other respects are quite different: the distribution of the land in China is not, perhaps, quite equally, but fairly portioned out; there are, in consequence, no overgrown landlords or starving tenants. Compared with Ireland it is a terrestrial paradise.—*Quarterly Review*.

Chinese Gunpowder.—Among the early discoveries of the Chinese may be reckoned that of gunpowder. They carry back the invention of this compound of "sulphur, saltpetre, and willow charcoal" to a remote period; but it does not appear that it was used for other purposes than that of making fireworks. They clothe fire with every possible shape. On one of their festival evenings may be seen all kinds of birds, beasts, and fishes, brilliantly lighted up from within, and skimming through the air each with its peculiar motion; fiery dragons 100 feet long; junks in full sail; and crackers and rockets without end. Mr. Davis, in referring to a table of the different quantities of nitre, charcoal, and sulphur, used by different nations, states, as deserving notice, that the English and Chinese proportions are almost precisely the same. The latter is said to be much inferior in strength, probably from the imperfection of the mixture, and the inferiority of the materials.—*Ibid.*

A Watch of Steel.—In the *Universal Magazine*, (vol. x. p. 507), it is stated that "A weaver in Dundee has in his possession a watch, made, by a weaver of the name of Ramsay, about twenty years ago, entirely of steel, except a few of the bushes, and the cases, which are silver." J. H. F.

Opium and Tea.—The following brief statement will show that opium smuggled into China from India forms about one-half of the total value of imports, and tea something less than the same proportion of exports.

Imports in 1833.		Dollars.
Opium	- - -	11,618,167
Other imports	- - -	11,898,077
		23,476,244
Exports in 1833.		
Tea	- - -	9,123,749
Other exports	- - -	11,309,521
		20,443,270

The amount of the opium imported by us has thus been greater than that of the tea exported. The pernicious drug, sold to the Chinese, has exceeded in market-value the wholesome leaf that has been purchased from them; and the balance of the trade has been paid to us in silver. It is a curious circumstance that we grow the poppy in our Indian territories to poison the people of China, in return for a wholesome beverage which they prepare, almost exclusively, for us.—*Quarterly Review*.

Science and War.—Since the peace of 1815, more has been achieved by scientific men than had been effected for centuries previously. The scientific world was, at that period, enlarged, and the free interchange of thought and friendly communication which

has since existed among scientific men, have had the most stimulating effects on the human mind:—discovery has pressed hard upon discovery, and improvement upon improvement. Men of different nations are now vying with each other, not in the murderous and unhallowed arts of war, not in fomenting the deadliest animosity, nor in fostering the lowest propensities of our nature, which wars are calculated to do, but they are now found striving with each other in promoting the useful arts, in disseminating knowledge, in extending the boundaries of science, and thus contributing to exalt the character of man, and add to the sum of human happiness.—*Dr. Robert Hunter's Lecture on Medical Science, 1836.*

Stothard an Entomologist.—To the Editor. —In *Blackwood's Magazine*, (vol. xxxix.,) are some interesting "Reminiscences of Stothard," and the writer of them observes that the genius of that eminent artist embraced sea pieces, landscapes, cities, architecture, flowers, fruit, birds, and even insects. (Page 761.)

That he painted "even insects," is not at all singular, if the following memorandum from my manuscript note-book be correct:—"Thomas Stothard, R.A., who was born in August, 1755, and died on April 27, 1834, used to collect insects, being very fond of studying their natural history."

The late Professor Fuseli, R.A., was, also, enthusiastically attached to the study of insects, as has been already stated in the *Mirror*, (xxv., 118), and I wish that we could find more students of natural history among this profession. It is desirable for their own sakes, and for the sake of accuracy in their representations of nature, that artists should avail themselves of the advantages to be derived from the examination and study of plants and animals, for it is not enough that they should look at the flower, the bird, or the insect, only when they are drawing it; but they should on all convenient occasions closely observe such things, so that they may familiarize and impress the mind's eye with not only their forms, lineaments, and tints, but with their natural attitudes.—J. H. F.

THE MIRROR, VOL. XXVII.

(From the *Literary Gazette*, July 30, 1836.)

"Of this half-year, December to June, we have only to say, as of all that have gone before, that it is very various, full of curious information, and illustrated with interesting subjects of every kind."

LONDON: Printed and published by J. LIMBIRD, 143, Strand, (near Somerset House); and sold by all Booksellers and Newsmen.—Agents in PARIS, G. W. M. REYNOLDS, French, English, and American Library, 55, Rue Neuve St. Augustin.—In FRANCFORT, CHARLES JUELI.